Iowa CONSERVATION Showcase

Blockton Watershed Structures Still Holding Strong

Twenty-seven grade stabilization structures, also referred to as dams or farm ponds, were constructed as long as 40 years ago as part of a watershed project to protect the southern Iowa town of Blockton, and its farming community, from flooding and soil erosion.

Those aren't the only benefits Blockton has felt from the structures, however. The dams have contributed to more recreational opportunities, livestock water, and water sources for humans. The area surrounding the largest dam has since been developed into a county park, attracting visitors to the Blockton community.

Ed Meek of Blockton talks to Iowa NRCS State Public Affairs Specialist Laura Greiner about the biggest structure from the Blockton Watershed Project, S5, now home to Sand's Timber Recreation Area.

Flooding Impacts

Residents of Blockton said they endured one or two floods per year in the 1950s and 1960s. The nearby Platte River often overflowed its banks and flooded the town's streets and agricultural lands, resulting in gully erosion, damage to crops, and sediment deposits in outlet channels and road ditches.

Eldon Stroburg was a Taylor County Soil Conservation District Commissioner at the time and an original member of the Blockton Watershed Board. "A lot of the

The S5 structure, a 76-acre lake, protects a hayfield as it hits flood stage after heavy rains in late August 2006.

NRCS Natural Resources Conservation Service


Dean Cobb


Leo Dillon


Evonne Jennett


Ken Jennett


Ed Meek


Carey Stroburg


Eldon Stroburg

tributaries, which ran through our cropland, would flood badly," said Stroburg. "There was mud on the beans; it would just ruin the crops."

Orville Melvin, who now lives in the Kansas City area, served on the Taylor County Conservation Board for 35 years. He said there were very few structures back then to protect the community from flooding. "Heavy rains would flood the streets of Blockton, and the town sits above the river, so that tells you how bad it was," said Melvin.

About 30 percent of the land was pastureland for cattle grazing. Gullies formed from severe erosion were dangerous for livestock, too. "There was a huge gully running through our pasture," said Carey Stroburg, who was in high school at the time. "That is where the worst flooding occurred. We'd lose a cow every once in a while in the ditch when the water came down through there."

Formation of Blockton Watershed Board

Eldon Stroburg says Ray Dillon, a local farmer, was the "spark plug" of the watershed project. "(Dillon) approached me in the fall of 1959 about the need for a complete watershed project," he said. "We decided right then to move ahead with it."

The first annual meeting of the Blockton Watershed Board was held in March 1960. The Blockton Watershed Board worked with the U.S. Department of Agriculture's Soil Conservation Service (SCS), now called the Natural Resources Conservation Service (NRCS), to obtain technical and financial assistance for the project. A watershed work plan was drafted and approved for funding in October 1963 through the Watershed Protection and Flood Prevention Act, also known as PL-566. The total estimated cost of the project was $688,880, of which $550,490 was covered through PL-566 funding. Based on the work plan, the average annual benefits of the project outweighed the average annual costs by nearly a 2:1 margin.

Leo Dillon, son of Ray Dillon, said the overall cost was a lot of money in those days. "The total cost of the project went above the PL-566 limit, so it took an act of Congress to get it financed," he said.


A late fall look at the largest structure, S5.

Structures Complete, Locals Benefit

The first grade stabilization structures were completed in 1966, and were strategically placed to reduce flooding, sediment runoff and gully erosion. The impacts were immediate. "We didn't have the same kind of flooding problems below each of those structures anymore," said Eldon Stroburg.

Dean Cobb, who grew up on a farm just west of the Platte River, said he has seen dramatic changes since the watershed structures were put in. "I remember walking through knee-high water to the corn cribs after heavy rains," he said. "With the exception of 1993, it has not been that way since construction of our dam."

Ed Meek, whose father was an original member of the Blockton Watershed Board, said the structures have been a great thing for the farmers and the community. "The farmers have held on to their crops, and we've been able to use the ponds for livestock water, recreation, flood control, and sometimes as a water source."

Besides the obvious benefits, Carey Stroburg says the farm ponds provided immediate recreational opportunities for the community. "The first one they built was half on Eldon's property and half on ours. Eldon developed a road back to the structure and we took electricity back in there," he said. "It became a recreation center for Blockton. There were campers out there every weekend. We even water skied out there; we put a brick pit out there every 4th of July and we'd roast a hog and invite the whole community in, so it got used a lot."

Of the 27 structures built, the largest was a 76-acre lake called "S5." Today, it is owned by the county and is home to Sand's Timber Recreation Area, a 235-acre area with modern campsites, hiking trails, fishing and hunting areas.

Structures Strong After 40 Years

Now, 40 years since the first dam was constructed, all 27 ponds continue to be structurally sound. Several reasons can be given for that, including better land use decisions by farmers.

Local farmer Ken Jennett believes USDA programs, such as the Conservation Reserve Program (CRP) that allows the Federal government to enter into contracts with agricultural producers to remove highly erodible cropland from production, have been influential. "If we can keep people from farming above the structures, they'll last a lot longer," he said. "The CRP has kept the soil on a lot of the steeper slopes and out of the bottom of the ponds."

Part of the original Blockton Watershed Work Plan called for certain land treatment measures to be installed and maintained, including terraces, contour farming, grassed waterways, diversions, tile drains, pasture improvements, livestock exclusions, and forestry measures, such as tree plantings.

Past and present Blockton residents got together in early December to talk about how the Blockton Watershed Project has benefited the community.

"Part of the success is less tillage," said Jennett. "We also have more terraces and other conservation practices that have made a world of difference in not filling up these ponds with silt."

Maintaining the Dams

According to Dave Beck, planning leader for NRCS in Iowa, the Blockton Watershed structures were built for a 50-year lifespan. He says it's the job of the watershed sponsors to operate and maintain the structures. In this case, the Taylor County Board of Supervisors and the Taylor Soil and Water Conservation District serve as local sponsoring organizations.

"One of the most important jobs of the sponsors of a watershed project is to operate and maintain the dams so that they can function as planned," said Beck. "Just like highways and homes, the older the dams get, the more maintenance they require."

District Conservationist Doug Davenport of the NRCS says Taylor County has spent more than $50,000 over the past few years to maintain the structures. "The county takes a look at the structures each year," he said.

Blockton Endures Late Summer Rains

After a drier than normal summer in southern Iowa, the structures were tested by Mother Nature. Blockton received about six inches of rain in late August and another eight inches in a seven-hour period overnight in early September. Rainwater flowed over into most of the structures' emergency spillways, exactly as designed.

"I'd hate to see what this river would have done to us without our watershed structures," said Meek. "The structures, once again, did a tremendous job."

For a complete look at PL-566 projects in Iowa, past and present, visit the Iowa NRCS website at www.ia.nrcs.usda.gov/programs/PL566.html.

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